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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/975,128	10/10/2001	Sandesh Goel	P140US1	1631

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EXAMINER	
PHUNKULH, BOB A	

ART UNIT	PAPER NUMBER
2661	

DATE MAILED: 07/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/975,128	GOEL ET AL.	
	Examiner	Art Unit	
	Bob A. Phunkulh	2661	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 October 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-30* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *10 October 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *10/10/2001*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

Claim 26 is objected to because of the following informalities: the claim depends on claim 10, where the claimed subject matter are the same as in claim 11 –thus they are duplicate claims. For examination, the examiner regards the claim depends on claim 19. Appropriate correction is required.

Claim 28 is objected to because of the following informalities: please correct a typo "antennae" to –antennas--. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-4, 6-10, 19-22, 24-25 are rejected under 35 U.S.C. 102(e) as being anticipated by McDonnell (US 6,763,491).

Regarding claim 1, McDonnell disclose a method of wirelessly transmitting and re-transmitting sub-protocol data units between a transceiver and a subscriber unit, the method comprising:

the transceiver receiving standard data units and forming sub-protocol data units (the sender 2 i.e. base station received data from packet data network (not shown), see figure 1),

the transceiver transmitting a plurality of sub-protocol data units to the subscriber unit, a subset of the plurality of sub-protocol data units comprising an acknowledge request indicator (the packets C and H form a subset of the packets and comprises of polling data for ack/nack data, see figure 1);

the subscriber unit receiving the sub-protocol data units (the receiver i.e. mobile station 4 receiving the transmitted data packets A-H, see figure 1);

the subscriber unit transmitting back to the transceiver a response to the acknowledge request indicator, indicating which sub-protocol data units were successfully received by the subscriber unit (the receiver 4 responds to the poll packets C or H with ack/nack 6, 8, see figure 1).

Regarding claim 2, McDonnell inherently discloses the transceiver buffering the sub-protocol data units within transceiver buffers (in order to retransmit the lost or corrupt packet the sender must have buffered the packet)..

Regarding claim 3, McDonnell inherently discloses the transceiver transmits a sub-protocol data unit comprising the acknowledge request indicator when a last sub-protocol data unit within the transceiver buffers to be transmitted is reached (the polling message is transmit after transmitting a predetermined data blocks (every 20th

transmitted data blocks), where transmitter's buffer is designed to hold 20 blocks of data units, see col. 6 lines 28-41).

Regarding claim 4, McDonnell discloses the transceiver transmits a sub-protocol data unit comprising the acknowledge request indicator when a predetermined number of sub-protocol data units have been transmitted since a previous sub-protocol data unit that comprised a previous acknowledge request indicator was transmitted (the polling message is transmit after transmitting a predetermined data blocks (every 20th transmitted data blocks), see col. 6 lines 28-41).

Regarding claim 6, McDonnell discloses how frequently sub-protocol data units comprising the acknowledge request indicator are transmitted is dependent upon a predetermined time duration since the transmitter received a response to an acknowledge request indicator (if the response is not received within at a expected time, a next polling message sent, see col. 6 lines 42-60).

Regarding claim 7, McDonnell discloses every transmitted sub-protocol data unit comprises an acknowledge request indicator after a predetermined time duration since the transmitter received a response to an acknowledge request indicator (see col. 6 lines 42-60).

Regarding claim 8, McDonnell disclose the response to the acknowledge request includes a bit map that comprises information about which sub-protocol data units have been successfully received by the subscriber (see claim 7).

Regarding claim 9, McDonnell disclose the response to the acknowledge request includes a hole indicator that indicates which sub-protocol data units of a receiver window that includes a predetermined number of sub-protocol data units were not successfully received by the subscriber unit (see claim 7).

Regarding claim 10, McDonnell disclose the transceiver re-transmitting the sub-protocol data units that were not successfully received by the subscriber unit (see col. 1 line 63 to col. 2 line 7).

Regarding claim 19, McDonnell discloses a method of wirelessly transmitting and re-transmitting sub-protocol data units from a transceiver, the method comprising:

the transceiver receiving standard data units and forming sub-protocol data units (the sender 2 i.e. base station received data packets from a data packet network (not shown), see figure 1),

the transceiver transmitting a plurality of sub-protocol data units to a subscriber unit, a subset of the plurality of sub-protocol data units comprising an acknowledge request indicator (packets C and H, see figure 1);

the transceiver receiving a response to at least one acknowledge request indicator, each response including an indication of which sub-protocol data units were successfully received by the subscriber unit (ack/nack message 6, 8, see figure 1); and

the transceiver re-transmitting the sub-protocol data units that were not successfully received by the subscriber unit (see col. 1 line 63 to col. 2 line 13).

Regarding claim 20, McDonnell inherently discloses the transceiver buffering the sub-protocol data units within transceiver buffers (in order to retransmit the lost or corrupt packet the sender must have buffered the packet).

Regarding claim 21, McDonnell inherently discloses the transceiver transmits a sub-protocol data unit comprising the acknowledge request indicator when a last sub-protocol data unit within the transceiver buffers to be transmitted is reached (the polling message is transmit after transmitting a predetermined data blocks (every 20th transmitted data blocks), where transmitter's buffer is designed to hold 20 blocks of data units, see col. 6 lines 28-41).

Regarding claim 22, McDonnell discloses the transceiver transmits a sub-protocol data unit comprising the acknowledge request indicator when a predetermined number of sub-protocol data units have been transmitted since a previous sub-protocol data unit that comprised a previous acknowledge request indicator was transmitted (the polling message is transmit after transmitting a predetermined data blocks (every 20th

transmitted data blocks), see col. 6 lines 28-41).

Regarding claim 24, McDonnell discloses every transmitted sub-protocol data unit comprises an acknowledge request indicator after a predetermined time duration since the transmitter received a response to an acknowledge request indicator (see col. 6 lines 42-60).

Regarding claim 25, McDonnell discloses every transmitted sub-protocol data unit comprises an acknowledge request indicator after a predetermined time duration since the transmitter received a response to an acknowledge request indicator (see col. 6 lines 42-60).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 5, 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over McDonnell in view of Gilbert et al. (US 5559810), hereinafter Gilbert.

Regarding claims 5, and 23, McDonnell fails to explicitly disclose that a frequency of data units that comprise of acknowledge request indicator are transmitted is dependent upon a quality of wireless transmission link.

Gilbert, on the other hand, discloses when channel conditions between a sender and a receiver are poor, the need for re-transmission is high (see col. 1 line 55 to col. 2 line 3).

Therefore, it would have been obvious to one having ordinary skill in the art at the time of invention was made transmit acknowledge request indicator to the receiver based the channel condition of the link between the sender and the receiver in order to make sure the receiver receive the transmitted data correctly and retransmit the transmitted data quickly if needed.

Claims 14-17, 29-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over McDonnell in view of Malmgren et al. (US 6778501), hereinafter Malmgren.

Regarding claims 14-15, 29-30, McDonnell fails explicitly discloses the transmitter clears/aborts the buffer if the response to the acknowledge request has been received.

Malmgren, on the other hand, teaches the sender can, based on the PDU status information, determine whether certain PDUs in its buffer should be released, to make room for new PDUs, or retransmitted in the event they were not successfully received (see col. 2 lines 10-13).

Therefore, it would have been obvious to one having ordinary skill in the art at the time of invention was made implement the teaching of Malmgren in the system taught by McDonnell in order to make room for new PDUs.

Regarding claim 16, McDonnell fails to explicitly disclose the subscriber unit comprises a buffer in which received data unit are buffered.

Malmgren, on the other hand, teaches the subscriber unit comprises a buffer in which received data unit are buffered (see col. 8 lines 15-24).

Therefore, it would have been obvious to one having ordinary skill in the art at the time of invention was made provides subscriber's buffer of Malmgren in the system taught by McDonnell in order for storing the received data units while the receiver checking whether the received data units contain errors.

Regarding claim 17, the combination of McDonnell-Malmgren fails to teach the subscriber unit aborting the subscriber buffer of received sub-protocol data units if sub-protocol data units with errors are not correctly retransmitted after a given period of time.

It would have been obvious to one having ordinary skill in the art at the time of invention was made to stop buffering the received data units if data units with errors are not correctly retransmitted after a given period of time. The reason being the user will not want continue receiving corrupted or errors prone data units.

Claims 11-13, 26-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over McDonnell in view of Koo et al. (US 2002/0071407), hereinafter Koo.

Regarding claims 11-13, 26, 28, McDonnell fails to explicitly disclose that the re-transmitted data units are transmitted over a better of multiple transmission channels; re-transmitted data units are give different transmission priority or different mode.

Koo, on the other hand, discloses the re-transmitted data units are transmitted over a better of multiple transmission channels; re-transmitted data units are give different transmission priority or different mode (see paragraphs 28-32).

Therefore, it would have been obvious to one having ordinary skill in the art at the time of invention was made implement the teaching of Koo in the system taught by McDonnell in order to increase the throughtput of a downlink and reducing a processing delay time and preventing an increase in a required memory capacity due to repeated retransmissions.

Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over McDonnell in view of Johansson et al. (US 6,473,399), hereinafter Johansson.

Regarding claim 18, McDonnell fails to disclose that the subscriber unit transmits a pseudo response to an acknowledgement indicator if the subscriber fails to receive re-transmitted sub-protocol data units after a predetermined amount of time.

Johansson, on the other hand, disclose if the requested one or more data units to be retransmitted is not received or is erroneously received, a request for retransmission is sent to the sender (see col. 2 lines 50-59).

Therefore, it would have been obvious to one having ordinary skill in the art at the time of invention was made implement the teaching of Johansson in the system taught by McDonnell in order to make sure the subscribe receive the correct data unit.

Conclusion

Any response to this action should be mailed to:

The following address mail to be delivered by the United States Postal Service (USPS) only:

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P. O. Box 1450
Alexandria, VA 22313-1450

or faxed to:

(703) 872-9306, (for formal communications intended for entry)

Or:

The following address mail to be delivered by other delivery services (Federal Express (Fed Ex), UPS, DHL, Laser, Action, Purolater, Hand Delivery, etc.) as follow:

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220 20th Street South
Customer Window, Mail Stop _____
Crystal Plaza Two, Lobby, Room 1B03
Arlington, VA 22202.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Bob A. Phunkulh** whose telephone number is **(571) 272-3083.** The examiner can normally be reached on Monday-Tursday from 8:00 A.M.

to 5:00 P.M. (first week of the bi-week) and Monday-Friday (for second week of the bi-week).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor **Chau Nguyen**, can be reach on **(571) 272-3126.** The fax phone number for this group is **(703) 872-9306.**

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Bob A. Phunkulh
Primary Examiner
TC 2600
Art Unit 2661
July 11, 2005

BOB PHUNKULH
PRIMARY EXAMINER